

HAVERINEN — 09/803,943
Client/Matter: 060258-0276745

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for balancing load in a telecommunications system supporting Mobile IP, the system including at least one primary home agent configured to support mobility of at least one mobile node, the method comprising:
adding one or more secondary home agents to the telecommunications system, in addition to the at least one primary home agent; and
~~transmitting packets destined for the at least one mobile node when needed via one or more secondary home agents~~
processing, in the primary home agent, registration requests sent from the at least one mobile node or a foreign agent serving the mobile node in a visited network;
sending a routing request to the one or more secondary home agents to transmit packets destined for the at least one mobile node in response to receiving a registration request that is acceptable from the mobile node or from the foreign agent serving the mobile node in the visited network; and
intercepting and tunneling packets destined for the at least one mobile node by the one or more secondary home agents in response to the routing request.
2. (Cancelled)
3. (Previously Presented) The method of claim 1 further comprising:
updating Address Resolution Protocol and tunneling configurations of the one or more secondary home agents supporting IPv4 protocol, or neighbor discovery configurations and tunneling configurations of the one or more secondary home agents supporting IPv6 protocol, and
intercepting and tunneling the packets destined for the at least one mobile node using the updated Address Resolution Protocol and tunneling configurations or the neighbor discovery and tunneling configurations.
4. (Previously Presented) The method of claim 1, further comprising:

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collecting loading information by monitoring a number of packets transmitted by the primary home agent; and

transmitting packets destined for the at least one mobile node via the one or more secondary home agents to balance the load in response to a number of transmitted packets being transmitted by the primary home agent exceeding a predetermined threshold value.

5. (Previously Presented) The method of claim 1, further comprising:
using the primary home agent's Internet Protocol address as a source address of packets transmitted from the one or more secondary home agents and the mobile node's care-of address as a destination address.

6. (Previously Presented) The method of claim 1, further comprising:
transmitting packets destined for the at least one mobile node via the primary home agent in response to receiving an acceptable registration request from the at least one mobile node or a foreign agent serving the mobile node in the visited network;
sending a routing request to the one or more secondary home agents to transmit the packets destined for the at least one mobile node;
intercepting and tunneling the packets destined for the at least one mobile node using the one or more secondary home agents in response to the routing request; and
stopping packet transmission to the at least one mobile node via the primary home agent.

7. (Previously Presented) The method of claim 1, further comprising:
sending a stop forwarding request to the one or more secondary home agents if a mobility binding to the at least one mobile node is released or a registration lifetime of the mobile node expires; and
stopping the packet transmission to the at least one mobile station via the one or more secondary home agents in response to the stop forwarding request.

8. (Previously Presented) The method of claim 1, further comprising:
sending information indicating a duration of packet transmission to the one or more secondary home agents, and

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stopping the packet transmission to the at least one mobile node via the secondary home agents if a duration indicated in the sent information expires.

9. (Currently Amended) A telecommunications system comprising:

at least one primary home agent configured to support mobility of one or more mobile nodes; and

at least one secondary home agent, in addition to the primary home agent,

~~wherein~~ the telecommunications system ~~[[is]]~~ being configured to transmit packets destined for the at least one mobile node via the at least one secondary home agent when needed, wherein the primary home agent is configured to process registration requests sent from the at least one mobile node or a foreign agent serving the mobile node in a visited network, and the primary home agent is configured to send a routing request to the at least one secondary home agent to transmit packets destined for the at least one mobile node in response to receiving a registration request that is acceptable from the mobile node or the foreign agent serving the mobile node in the visited network, and wherein the at least one secondary home agent is configured to intercept and tunnel packets destined for the at least one mobile node in response to the routing request.

10. (Cancelled)

11. (Previously Presented) The telecommunications system of claim 10, wherein

the at least one secondary home agent supports IPv4 protocol and is configured to update its Address Resolution Protocol and tunneling configurations, or the at least one secondary home agent supports IPv6 protocol and is configured to update its neighbor discovery configurations and tunneling configurations in response to the routing request, and at least one secondary home agent is arranged to intercept and tunnel the packets destined for the at least one mobile node using the updated Address Resolution Protocol and tunneling configurations or the neighbor discovery and tunneling configurations.

12. (Previously Presented) The telecommunications system of claim 9, wherein

the primary home agent is configured to collect loading information by monitoring number of packets it transmitted, and the telecommunications system is configured to balance a load by transmitting the packets destined for the at least one mobile node via at least one secondary

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home agent in response to the number of transmitted packets transmitted by the primary home agent exceeding a predetermined threshold value.

13. (Previously Presented) The telecommunications system of claim 9, wherein the primary home agent is configured to send a stop forwarding request to the at least one secondary home agent if a mobility binding with the at least one mobile node is released or a registration lifetime of the mobile node expires, and the at least one secondary home agent is configured to stop the packet transmission to the at least one mobile node in response to the stop forwarding request.

14. (New) A telecommunications device comprising at least one primary home agent configured to support mobility of one or more mobile nodes; wherein the primary home agent is configured to process registration requests sent from the at least one mobile node or a foreign agent serving the mobile node in a visited network, and the primary home agent is configured to send a routing request to the at least one secondary home agent to transmit packets destined for the at least one mobile node in response to receiving a registration request that is acceptable from the mobile node or the foreign agent serving the mobile node in the visited network.

15. (New) A telecommunications device comprising at least one secondary home agent configured to transmit packets destined for at least one mobile node when needed, wherein the secondary home agent is configured to receive a routing request from a primary home agent to transmit packets destined for the at least one mobile node, and the secondary home agent is configured to intercept and tunnel packets destined for the at least one mobile node in response to the routing request.